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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,233	08/18/2003	Junc-Seo Lee	P56843	2987

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11/10/2005

EXAMINER

LY, NGHI H

ART UNIT PAPER NUMBER

2686

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/642,233

Applicant(s)

LEE, JUNE-SEO

Examiner

Nghi H. Ly

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/02/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/25/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Somani et al (US 6,718,173) in view of Watson et al (US 6,212,382).

Regarding claims 1, 4, 6 and 9, Somani teaches a wireless network system capable of tracking a location of a mobile station (see Abstract) comprising: a visitor location register in which location information relating to a wireless network location of a mobile station is stored (see column 1, lines 11-25 and column 1, lines 64-67), and a base station controller storing location information relating to a wireless network location of a mobile station in said visitor location register when the mobile station registers its location with said wireless network (see column 1, lines 35-52, "BSC" and column 1, lines 64-67), and confirming a location of the mobile station and updating the location information stored in said visitor location register when the mobile station keeps up an idle state during a certain period (column 1, lines 35-52, see "a predetermined time period has elapsed") and (see column 4, lines 59-64).

Somani does not specifically disclose confirming a location of the mobile station by dummy paging.

Watson teaches confirming a location of the mobile station by dummy paging (see column 2, lines 45-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Watson into the system of Somani in order to provide a method for handover in a multicellular environment including an overlay and underlay of macrocells and microcells (see Watson, column 1, lines 5-10).

3. Claims 2, 3, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Somani et al (US 6,718,173) in view of Watson et al (US 6,212,382) and further in view of Stephens (US 6,256,503) and Fitch et al (US 6,424,840).

Regarding claims 2, 3, 8 and 12, Somani teaches a private wireless network system capable of tracking a location of a mobile station (see Abstract) comprising: at least one repeater dispersedly installed in sector zones of a private base transceiver station; a visitor location register in which location information relating to a private wireless network location of a mobile station is stored (see column 1, lines 11-25 and column 1, lines 64-67, see "VLR"), a private base station controller storing location information relating to a private wireless network location of a mobile station in said visitor location register when the mobile station registers its location with said private wireless network (see column 1, lines 35-52, "BSC" and column 1, lines 64-67), and confirming a location of the mobile station and updating the location information stored in said visitor location register when the mobile station keeps up an idle state during a

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certain period (column 1, lines 35-52, see "a predetermined time period has elapsed") and (see column 4, lines 59-64).

Somani does not specifically disclose confirming a location of the mobile station by dummy paging.

Watson teaches confirming a location of the mobile station by dummy paging (see column 2, lines 45-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Watson into the system of Somani in order to provide a method for handover in a multicellular environment including an overlay and underlay of macrocells and microcells (see Watson, column 1, lines 5-10).

The combination of Somani and Watson does not specifically disclose a server inquiring about the location information of the mobile station stored in said visitor location register.

Stephens teaches a server inquiring about the location information of the mobile station stored in said visitor location register (see column 13, lines 40-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Stephens into the system of Somani and Watson in order to provide an improved wireless communications network that includes restricted user terminal areas based on the location of an originator (see Stephens, column 2, lines 52-55).

The combination of Somani, Watson and Stephens does not specifically disclose

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the location information including at least one of a private base transceiver station number, a sector number and a repeater number.

Fitch teaches the location information includes at least one of a base transceiver station number, a sector number and a repeater number (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of Somani, Watson and Stephens in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

Regarding claim 13, Somani further teaches transmitting the location information received from said private base station controller to the client; and receiving the location information from said server and providing a user with a location and state of the specific mobile station according to the received location information (see column 1, lines 11-25 and column 1, lines 64-67).

4. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Somani et al (US 6,718,173) in view of Watson et al (US 6,212,382) and further in view of Fitch et al (US 6,424,840).

Regarding claims 5 and 7, the combination of Somani and Watson teaches claims 4 and 6. The combination of Somani and Watson not specifically disclose the location information includes at least one of a base transceiver station number, a sector number and a repeater number.

Fitch teaches the location information includes at least one of a base transceiver

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station number, a sector number and a repeater number (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of Somani and Watson in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

5. Claims 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Somani et al (US 6,718,173) in view of Garceran et al (US 6,522,888) and Fitch et al (US 6,424,840) and further in view of Giniger et al (US 6,199,045).

Regarding claim 10, Somani teaches a method for tracking a location of a subscriber (se Abstract), comprising: storing location information when a mobile station executes location registration (see column 1, lines 11-26 and column 1, lines 64-67).

Somani does not specifically disclose periodically transmitting a message requesting an inquiry about a mobile station subscriber's state to a server.

Garceran teaches periodically transmitting a message requesting an inquiry about a mobile station subscriber's state to a server (see column 3, lines 34-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Garceran into the system of Somani in order to determine coverage in a wireless communication system (see Garceran, Abstract).

The combination of Somani and Garceran does not specifically disclose the location information including a private base transceiver station number, a sector number and a repeater number with respect to the relevant mobile station.

Fitch teaches the location information including a private base transceiver station number, a sector number and a repeater number with respect to the relevant mobile station (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of Somani and Garceran in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

The combination of Somani, Garceran and Fitch does not specifically disclose requesting a private base station controller to inquire out location information stored in a visitor location register in response to the inquiry message, transmitting location information stored in a visitor location register to a server in response to the server's request.

Giniger teaches requesting a private base station controller to inquire out location information stored in a visitor location register in response to the inquiry message, transmitting location information stored in a visitor location register to a server in response to the server's request (see column 11, lines 59-61, column 12, lines 32-38, the teaching of Giniger inherently teaches "a visitor location register" since the mobile unit 103 can roam from one network to another network and each network inherently includes "a visitor location register") and transmitting the location information received



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from said private base station controller to the client and receiving the location information from said server and providing a user with a location and state of a mobile station according to the received location information (see Astract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Giniger into the system of Somani, Garceran and Fitch in order to provide information to the users, which information is based upon the user's position and tailored to the user interests (see Giniger, column 1, lines 6-10).

Regarding claim 14, the combination of Somani, Garceran, Fitch and Giniger further teaches transmitting location information stored in said visitor location register directly to the server, remote from the visitor location register, in response to the server's request (see Giniger, column 11, lines 59-61, column 12, lines 32-38, the teaching of Giniger inherently teaches "a visitor location register" since the mobile unit 103 can roam from one network to another network and each network inherently includes "a visitor location register").

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Somani et al (US 6,718,173) in view of Garceran et al (US 6,522,888) and Fitch et al (US 6,424,840) and further in view of Giniger et al (US 6,199,045) and Watson et al (US 6,212,382).

Regarding claim 11, the combination of Somani, Garceran, Fitch and Giniger teaches confirming a location and state of a mobile station and updating its location

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information of said visitor location register when the relevant mobile station keeps up an idle state during a certain period, and then transmitting the updated location information to said server (see Somani, column 1, lines 11-25 and column 1, lines 64-67, see "VLR").

The combination of Somani, Garceran, Fitch and Giniger does not specifically disclose confirming a location of the mobile station by dummy paging.

Watson teaches confirming a location of the mobile station by dummy paging (see column 2, lines 45-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Watson into the system of Somani, Garceran, Fitch and Giniger in order to provide a method for handover in a multicellular environment including an overlay and underlay of macrocells and microcells (see Watson, column 1, lines 5-10).

### ***Response to Arguments***

7. a. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

b. Applicant's arguments filed 09/02/05 have been fully considered but they are not persuasive.

On pages 10 and 11 of applicant's remarks, applicant argues that the reference does not teach or suggest a repeater and Somrmi fails to teach or suggest a plurality of repeaters installed in sector zones of a private base transceiver station.

The examiner however disagrees. Somani teaches base stations (see fig.2, base station 14 inside cell 12 also see fig.1, plurality of cells 12 for plurality of base stations, and Somani's "base station" reads on applicant' "repeater". For more details see applicant's fig.1, repeater "R"). In addition, Somani teaches plurality of cells 12 for plurality of base stations, each cell of Somani inherently includes sector zones.

On page 13 of applicant's remarks, applicant further argues that the references fail to teach or suggest location information including the repeater number as no repeater is specifically disclosed by the references.

The examiner however disagrees. Fitch teaches cells identifier (see column 7, lines 8-10, however, each cell includes a base station, and Fitch's "base station" reads on applicant's "repeater". Therefore, the teaching of Fitch inherently teach applicant's "repeater number", or Fitch's "cells identifier" reads on applicant's "repeater number").

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Hogan** (US 2003/0040313 A1) teaches method and apparatus for location area updating in cellular communications.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

*NHL*  
*11/24/05*



**CHARLES APPIAH**  
**PRIMARY EXAMINER**